

Amendment and Response

Applicant: Edward Fuergut et al.

Serial No.: 10/561,819

Filed: December 22, 2005

Docket No.: I431.139.101/FIN474PCT/US

Title: SENSOR COMPONENT AND PANEL USED FOR THE PRODUCTION THEREOF

REMARKS

The following remarks are made in response to the Non-Final Office Action mailed May 20, 2009. Claims 14-19, 32 and 33 remain pending in the application and are presented for reconsideration and allowance.

Claim Rejections under 35 U.S.C. § 103

The Office Action rejected claims 14-17, 32 and 33 under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 5,353,498 to Fillion et al. ("Fillion") in view of U.S. Patent No. 6,379,998 to Ohta et al. ("Ohta"). Applicants respectfully traverse these rejections.

To establish *prima facie* obviousness, all claim limitations must be considered. MPEP 2143.03 (citing *In re Wilson*, 424 F.2d 1382, 1385, (CCPA 1970)). Independent claim 14 includes,

- a plastic plate, in which the sensor chip is embedded by its rear side and its edge sides, the active top side of the sensor chip and top sides of the contact areas, together with a top side of the plastic plate having a planar overall top side; and

- a rewiring structure with a rewiring layer having flat rewiring lines from the contact areas to external contact areas of the sensor components, the rewiring structure being arranged on the planar overall top side

Claim 32 is presented in "means-plus-function" language as provided by 35 USC 112, sixth paragraph. As such, the claim should be interpreted in view of the structure disclosed that corresponds to the "means" associated with the recited function. *See, In re Donaldson*, 16 F.3d 1189, 29 USPQ2d 1845 (Fed. Cir. 1994). Thus, the means for connecting the contact areas to the external contact areas of the sensor components includes a rewiring structure with a rewiring layer having flat rewiring lines arranged on the planar overall top side that extend in a common plane and are positioned directly on portions of the active top side of the sensor chip and the top side of the plastic plate as disclosed in the drawings and written description of the present application.

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The Office Action admits that Fillion does “not disclose the active top of the sensor chip and the plastic plate having a planar (flat) overall top side and flat rewiring.” Office Action at p. 3. The Office Action refers to Figure 1(d) of Fillion, which is reproduced below.

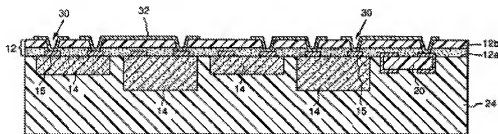


FIG. 1(d)

As noted in the Office Action and with reference to Figure 1(d) of Fillion, Fillion fails to disclose the active top of the chip 14 and molding material 24 forming a planar overall top side. Further, Fillion fails to disclose the top sides of the contact pads 15 forming part of a planar overall top side. Still further, Fillion fails to disclose rewiring lines arranged on the planar overall top side formed by the top sides of the chip, contact areas and plastic plate.

Instead, Fillion discloses a dielectric layer 12 formed over the molding material 24, with conductors 32 extending from the top surface of the dielectric layer 12 through via holes 30 to contact pads 15. The Office Action states that it would be obvious to modify the above structure disclosed in Fillion based on Ohta “to provide a planar overall top side in order to facilitate wiring made on the sensor chip and the substrate.” Office Action at p. 3.

To establish *prima facie* obviousness, there must be a reasonable expectation of success of the modified device. *In re Merck & Co., Inc.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Further, MPEP 2143.01 notes that, if a proposed modification or combination of the prior art would change the principle of operation of the prior art disclosure being modified, then the teachings of the references are not sufficient to render the claims *prima facie obvious*. (Citing *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959)).

Regarding the structure illustrated in Figure 1(d) shown above, Fillion teaches the chips 14 being placed face down on an adhesive layer 12b of the dielectric 12 and then embedded in

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molding material 24. Fillion goes on at col. 8, line 25 to note that vias 30 are formed in the dielectric layer 12 through which conductors 32 extend to the contact pads 15.

Each of the embodiments disclosed in Fillion include a dielectric layer over the top side of the chips and molding material, including, for example, the embodiment illustrated in Fillion's Figure 2 where the adhesive layer 12b is removed, then a separate dielectric layer 13 is formed over the top of the chips and molding material.

Modifying Fillion as proposed in the Office Action would require forming the conductors 32 *under* the dielectric layer 12. The Office Action fails to identify a disclosure in Fillion of an embodiment without a dielectric layer, or a teaching by Fillion that the device shown therein could operate without a dielectric layer or the conductors 32 being formed under the dielectric layer 12. Changing the wiring in this manner likely would change the principle of operation of the Fillion device since there no longer would be a dielectric layer between the conductors 32 and chips 14, and the Office Action has not provided an indication that there would be a reasonable expectation of success of such a modified device.

Still further, the Office Action has not provided a disclosure in either the Fillion or Ohta references that would teach one skilled in the art to redesign the Fillion device and manufacturing process therefore disclosed in Fillion such that the wiring is situated under the dielectric layer. If the Examiner is relying on personal knowledge regarding such modifications to the Fillion device, an affidavit or declaration in accordance with 37 CFR 1.104(d)(2) is required, setting forth specific factual statements and an explanation as to why and/or how the Fillion device would remain operable with such modifications.

Applicants therefore respectfully submit the Office Action fails to establish *prima facie* obviousness of claims 14 and 32, as well as claims 15-17 and 33 dependent thereon. As such, these claims are believed to be in condition for allowance.

Claims 18 and 19 were rejected as allegedly being unpatentable over Fillion and Ohta as discussed above regarding claim 14, and further in view of an additional reference. These claims depend on claim 14 and are therefore allowable for at least the same reasons.

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Therefore, Applicant respectfully requests reconsideration and withdrawal of the 35 U.S.C. § 103 rejection to the claims, and request allowance of these claims.

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CONCLUSION

In view of the above, Applicant respectfully submits that all of the pending claims are in form for allowance and are not taught or suggested by the cited references. Therefore, reconsideration and withdrawal of the rejections and allowance of the claims are respectfully requested.

No fees are required under 37 C.F.R. 1.16(h)(i). However, if such fees are required, the Patent Office is hereby authorized to charge Deposit Account No. 50-0471.

The Examiner is invited to contact the Applicant's representative at the below-listed telephone numbers to facilitate prosecution of this application.

Any inquiry regarding this Amendment and Response should be directed to Mark L. Gleason at Telephone No. (612) 767-2503, Facsimile No. (612) 573-2005. In addition, all correspondence should continue to be directed to the following address:

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Respectfully submitted,

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